



Datasheet

Circularly Polarized Passive GPS Embedded Ceramic Patch Antenna

Model: AIGC012

PN: M04-0102380R0A

Description:

GPS/GLONASS/BeiDou Passive Patch Antenna

Operating Frequency: 1570-1580 MHz

Features:

Ceramic Patch Element

Linear Polarization

Dimensions: 16 x 6 x 4mm

Tuned for 16 × 6 mm Ground Plane

Low Axial Ratio

Adhesive Mount

RoHS Compliant



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 Global Site: www.aboosty.com  China Site: www.aboosty.cn

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FEATURES & BENEFITS

- 16x6x4mm Embedded Ceramic Patch Element
- Miniaturized, Multi-system Compatible
- Low Axial Ratio
- Adhesive Mount
- RoHS Compliant
- Covering Bands: GPS (L1) / Galileo (E1) / BeiDou (B1)

APPLICATIONS

- Satellite Navigation Receivers
- Geodetic Surveying and Mapping
- Channel Surveying and Mapping
- Precision Agriculture
- Marine Surveying
- Asset and Fleet Tracking
- Oil, Gas, and Mining Industries
- M2M Applications
- Hand-held/Portable Devices



Antenna Image

ORDER INFORMATION

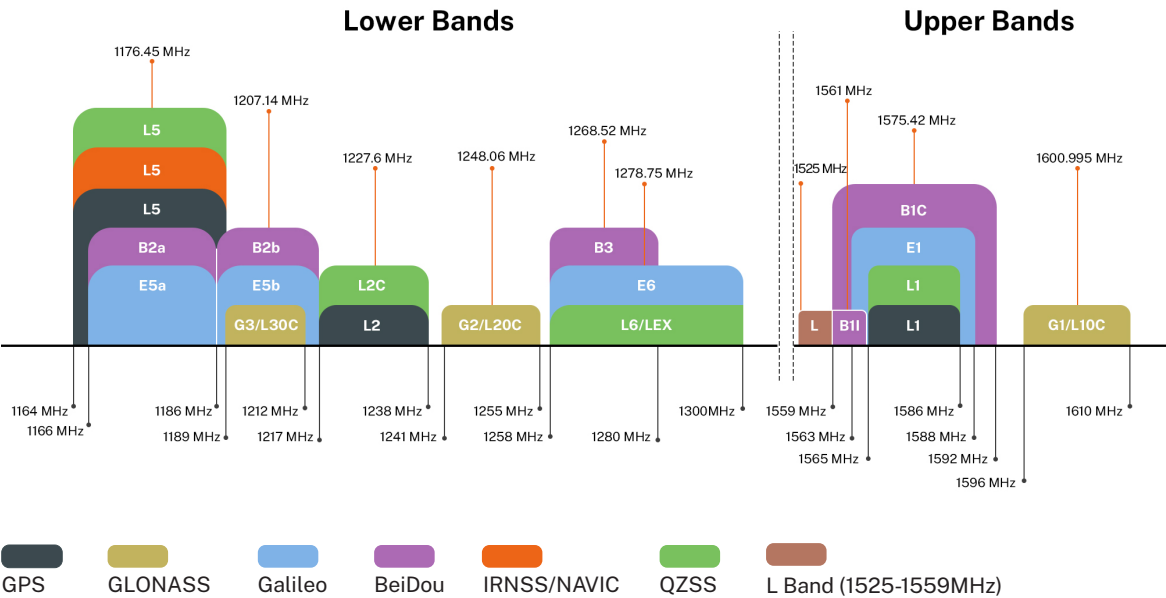
Product Name	Circularly Polarized Passive GPS Embedded Ceramic Patch Antenna
Model	AIGC012
Part Number	M04-0102380R0A
Dimensions	16x6x4mm
Weight	2.0g
Mounting	Internal/Embedded/Adhesive Mount
MOQ	500 pcs
Custom Options	Logo, Packaging, Cable and Connectors



GNSS FREQUENCY BANDS

GNSS Frequency Bands Covered					
GPS	L1	L2	L5		
	●	○	○		
GLONASS	G1	G2	G3		
	○	○	○		
Galileo	E1	E5a	E5b	E6	
	●	○	○	○	
Bei Dou	B1I	B1C	B2a	B2b	B3
	●	●	○	○	○
QZSS (Regional)	L1	L2C	L5	L6	
	●	○	○	○	
IRNSS(Regional)	L5				
	○				
SBAS	L1/E1/B1	L5/B2a/E5a	G1	G2	G3
	●	○	○	○	○

*SBAS systems: WASS(L1/L5), EGNOS(E1/E5a), SDCM(G1/G2/G3), SNAS(B1,B2a), GAGAN(L1/L5), QZSS(L1/L5), KAZZ(L1/L5).





REFERENCE GUIDE

Antenna	
Frequency	1575±5 MHz
Bandwidth	10MHz
VSWR	<1.8
Peak Gain (dBi)	-0.7 (16×6mm ground plane)
Axial Ratio (dB)	<10
Polarization	Linear
Radiation Pattern	Directional
Input Impedance	50 Ω

Environmental				
Operating Temperature	-40°C to +85°C			
Storage Temperature	-40°C to +90°C			
Relative Humidity	Non-condensing 65°C 95% RH			
Vibration	Wave Form: Random Vibration			
	Test Time: 30min/Axis			
	Direction: X, Y, Z Axis			
	PSD Break Points for 9.8 RMS (m/s ²)	Frequency (Hz)	50	300
		Acceleration ((m/s ²) ² /Hz)	0.38416	0.38416
RoHS Compliant	Yes			
All data were measured with a 16 x 6 mm ground plane. Application data might vary.				

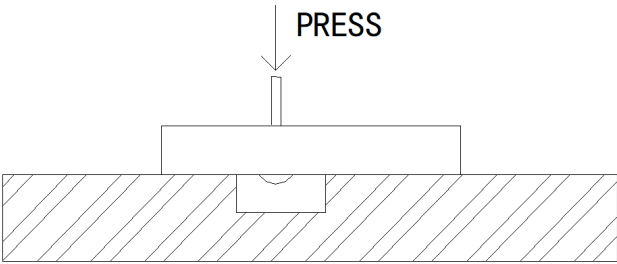
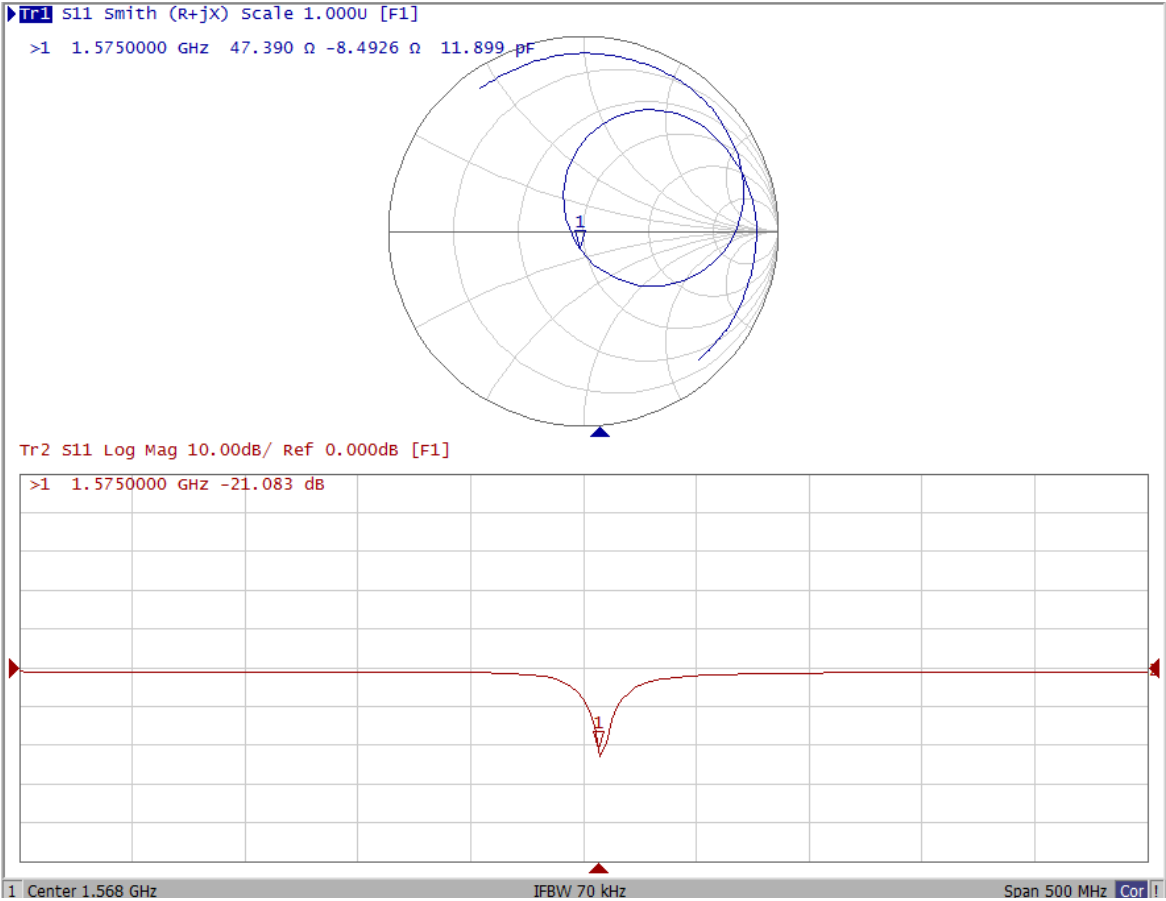


ELECTRICAL PERFORMANCE

ⓘ Note

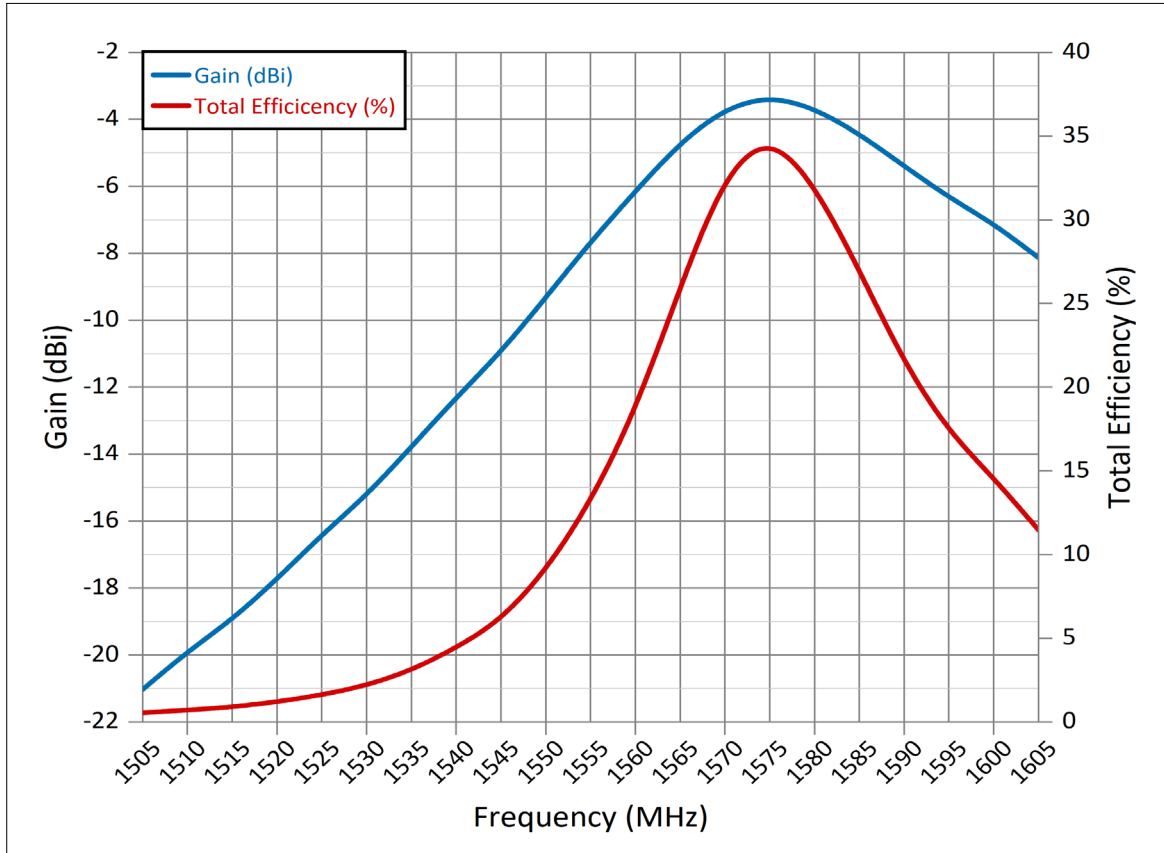
All data displayed in "ELECTRICAL PERFORMANCE" were measured with a 16 x6 mm ground plane.

S11



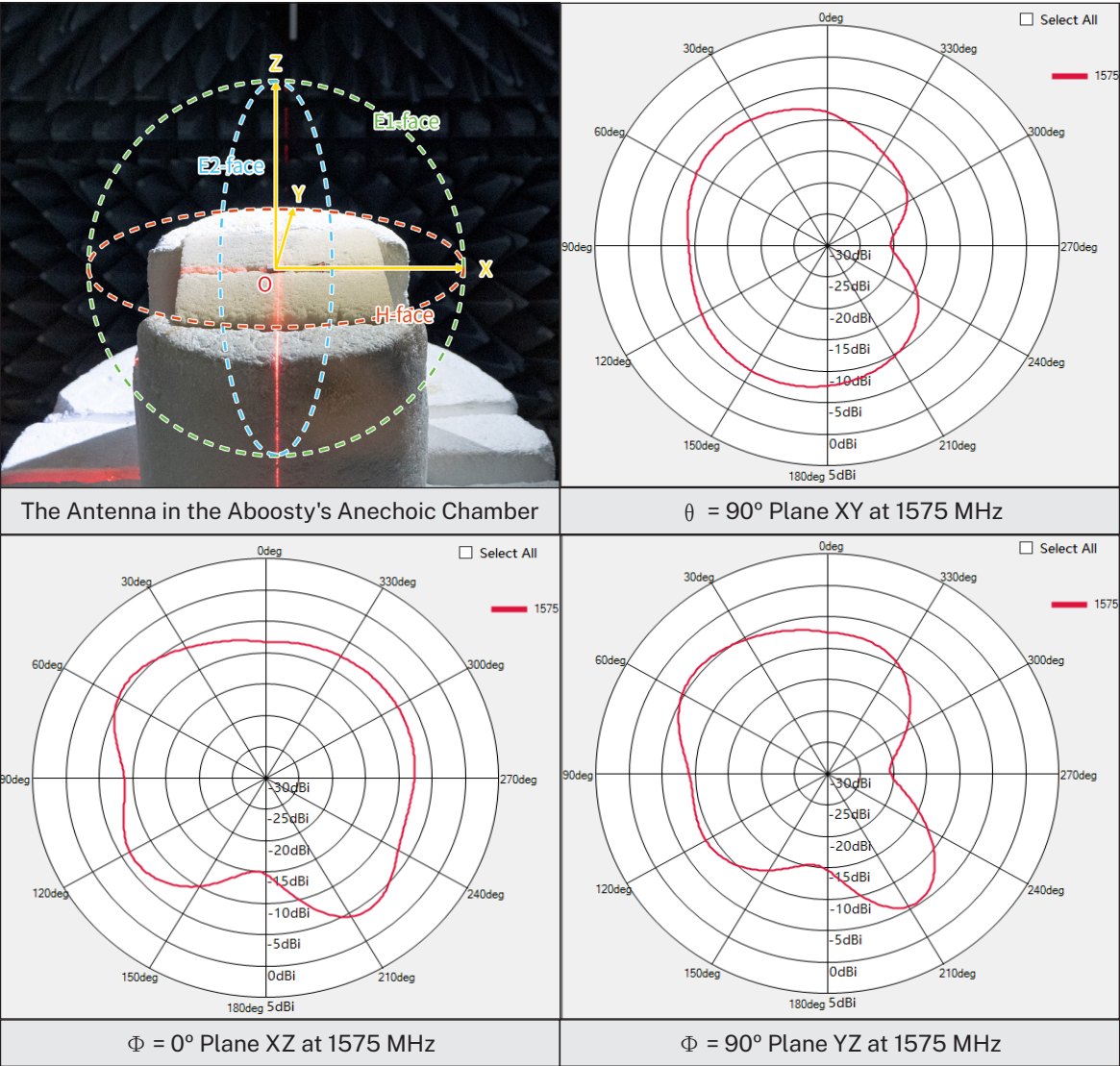
Item	Specification After Test (MHz)
Center Frequency Change	±3.0
-10dB Bandwidth Change	±3.0

Passive Gain (dBi) and Total Efficiency (%)

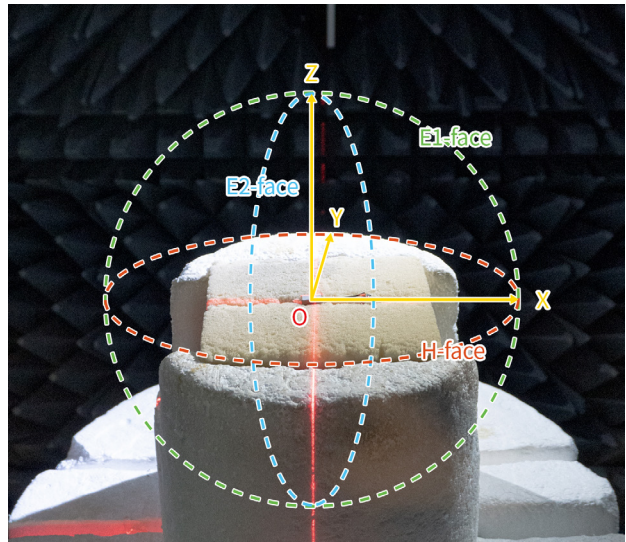


Freq (MHz)	Gain (dBi)	Efficiency (%)	Freq (MHz)	Gain (dBi)	Efficiency (%)
1505	-21.02	0.57	1560	-6.14	18.59
1510	-19.89	0.73	1565	-4.68	26.02
1515	-18.93	0.9	1570	-3.66	32.83
1520	-17.72	1.22	1575	-3.29	35.16
1525	-16.4	1.63	1580	-3.66	32.12
1530	-15.22	2.2	1585	-4.43	26.99
1535	-13.77	3.1	1590	-5.39	21.44
1540	-12.3	4.45	1595	-6.33	17.33
1545	-10.95	6.09	1600	-7.11	14.59
1550	-9.31	9.05	1605	-8.13	11.48
1555	-7.65	13.15			

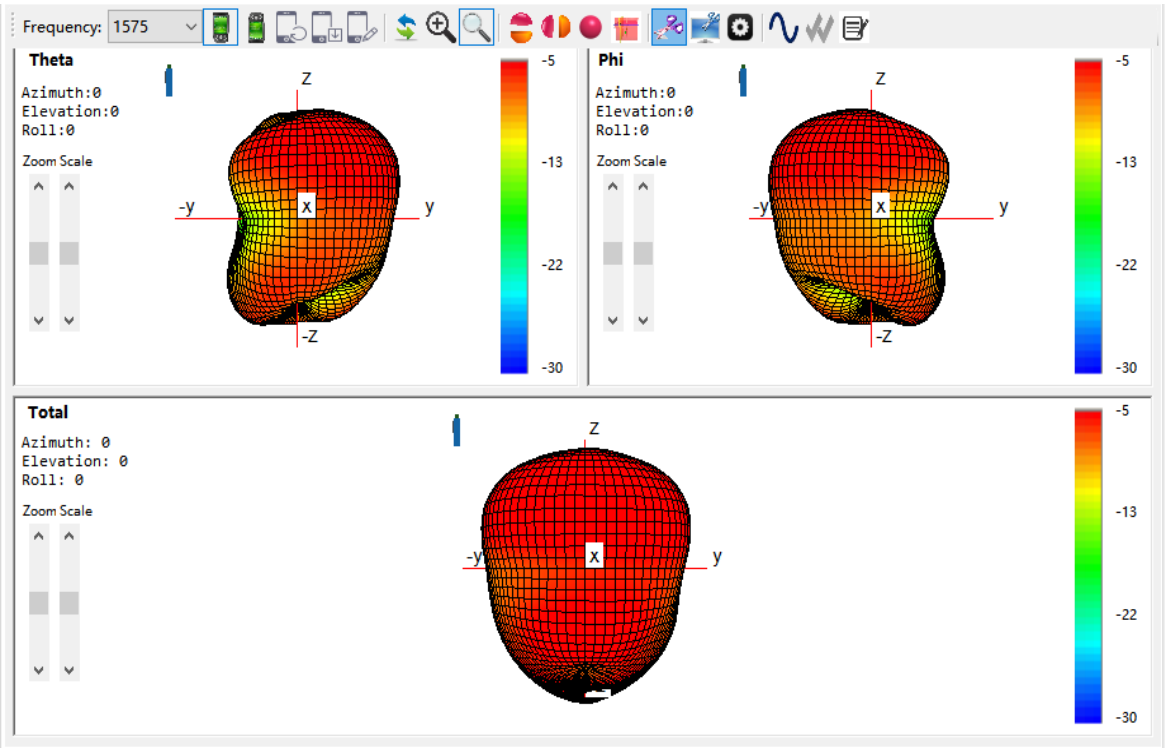
Active 2D Radiation Patterns (1575 MHz)



Active 3D Radiation Patterns (1575 MHz)

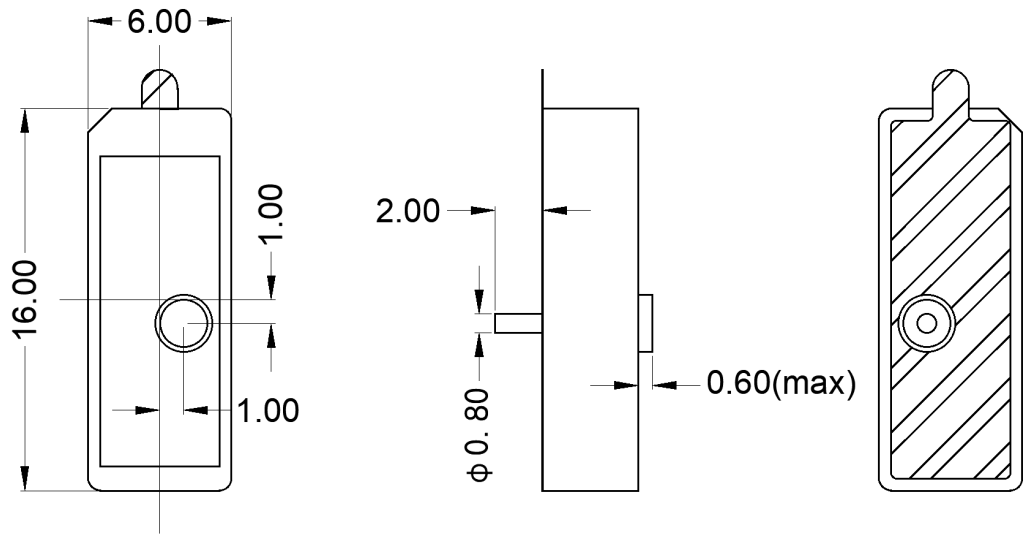


The Antenna in the Aboosty's Anechoic Chamber





MECHANICAL DIMENSIONS



ABOOSTY WELCOME ALL ANTENNA OEM/ODM PROJECTS

Why Choose ABOOSTY



10+ years in antenna R&D, production, and OEM/ODM



MES system supported factory; 50M+ units annual output capacity



Factory directly competitive price



Quick price and lead time estimate



Innovative and patented design solutions



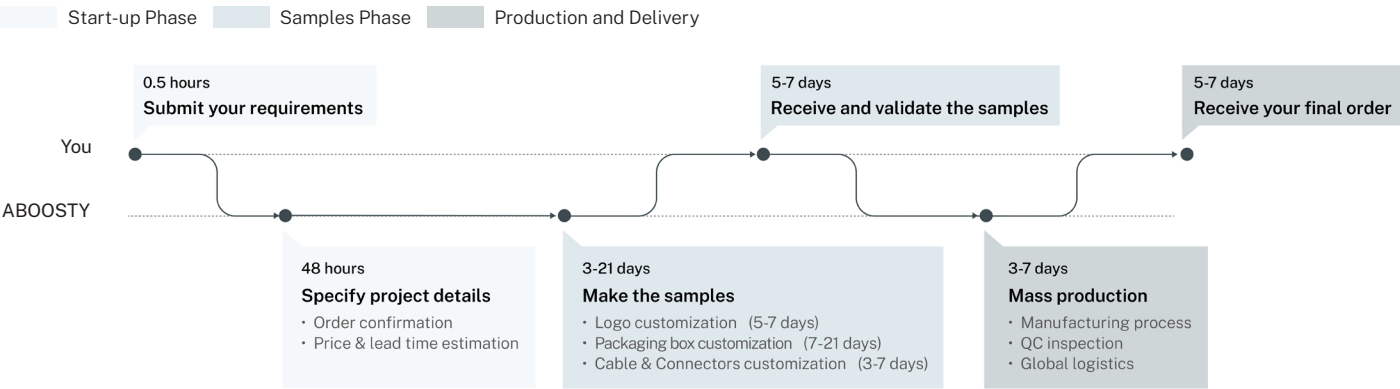
Professional team support & prompt reply within 24h

What We Provide

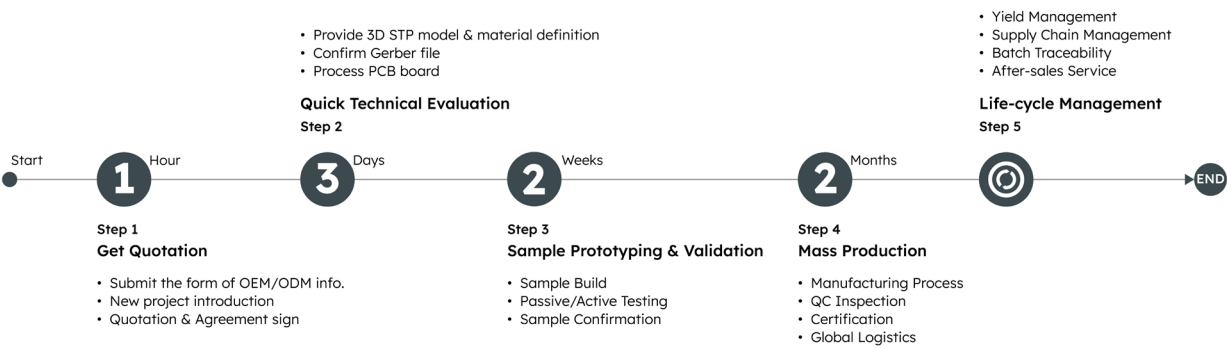
OEM/ODM Services	Light Customization	Deep Customization
	• Logo • Packaging • Cables & Connectors	• In-depth tailoring for specific applications • Functional enhancements • Environmental adaptations • Vertical certifications • ...

Custom Process

Light Customization Process



Deep Customization Process



Note: You can let us handle the PCB prototyping or do it yourself. Choosing self-prototyping may add 2 to 5 weeks to the timeline.

Boost Your Signal
with Our Antennas

ABOOSTY

A Globally Leading Manufacturer and Supplier of
Multi-band Combination Antennas

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